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Q NO 1 (a)

* following table describes basic plots ⅀ graph. *

box - Axis border.

errorbar - Plots error bar curve

hold - Retains current graph while adding new graphs

line - Creates line object

line spec - (line specification) - Syntax of line specification

→ String

loglog - log to log.

Plot - 2-D line plot

Plot 3 - 3-D line plot.

Plotyy - 2D line plot with Y axis on both left & right

Polar - Polar coordinate Plot

Semilogx - Semi logarithmic Plot

Semilogy - Semi logarithmic Plot.

Subplot - Creates axis in tled Positions

X lim - Set or queries x axis limits.

Y lim - Set an queries Y axis limits.

Z lim - Sets of queries Z axis limits.

Q NO3 (B)

Matlab Function

The distance b/w two points (x, y) & (x, y, z) on certain coordinate system / plane equation.

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

Distance Between Two Points

```
CLC
Distance between two Points
X1 = input ('Enter value of x1 :\n');
X2 = input ('Enter value of x2 :\n');
Y1 = Input (' Enter value of y1 :\n');
Y2 = Input (' Enter value of y2 :\n');
Distance = sqrt ( (x1 - x2)^2 + y1 + y2)^2 )
```

Q no 4 (A)

M Files In Matlab :-

Matlab allows writing two kinds of program files.

Scripts:- Script files are program files with .m extension. In these files you write series of commands, which you want to execute together. Scripts does not accept inputs & do not return any out puts. They operate on data on the work space

Functions :-

Functions files are also program files with .m extension. Funtion can accept inputs & outputs. Internal Naviables are local to the functions.

You can use the Matlab editor or any other text editors to create you. mfiles, In this section we will discuss the script files. A script

file contains multiple sequential lines of MATLAB commands & functions. You can run a script by typing its name at the command line.

Q no 4 (B)

```
clc
clear all;
close all;
t = input('enter the temperature in Fahrenheit:');
K = ((F-32)*5/9) + 273.15;
K
f = 1:100
```

Q NO 3 (A)

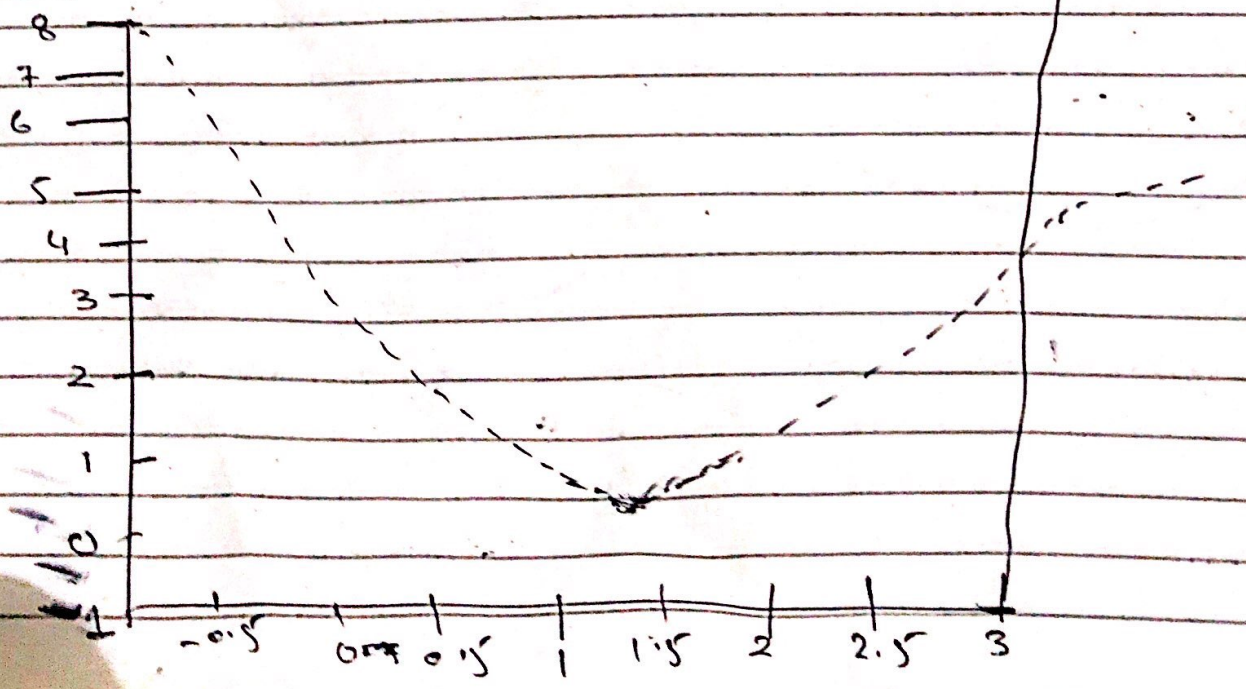
Below is the list of memory management functions

1. Clear - Removes variable from memory.
2. Pack - Saves the existing variable to disk, & then reload them continously
3. Save :- Selectively persists variable to disk
4. load - Reloads a data file saved with the save function.
5. Quit - Exits MATLAB & returns all allocated memory to the system

Q 5

```
clc
n= 1;
for ii = -1:0.1:3
  x(n)= ii;
  y(n)= ii^2-3*ii+2;
  n= n+1;
end
Plot(x, y, 'r--', 'Line Width', 3);
```

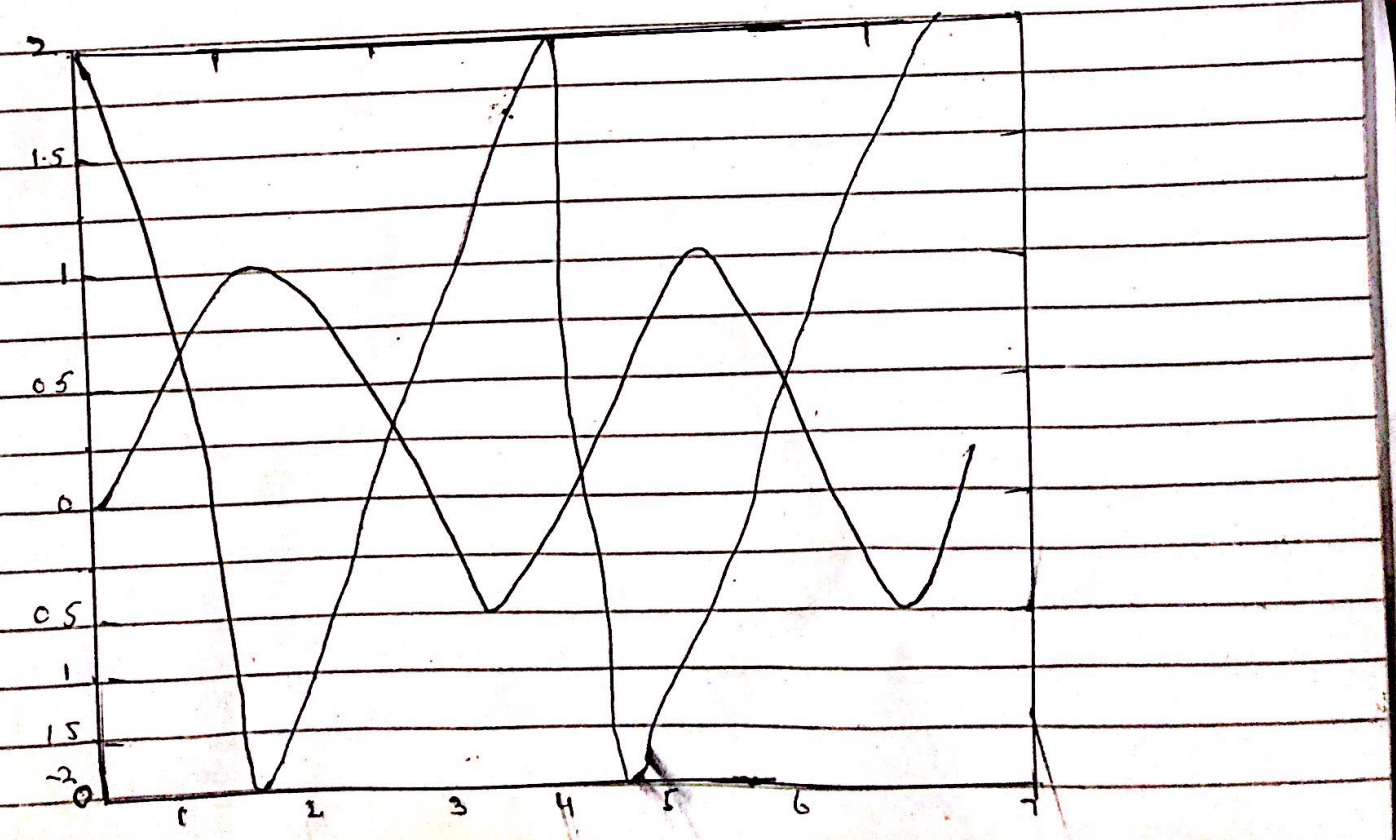
Graph



(7)

Q NO 2

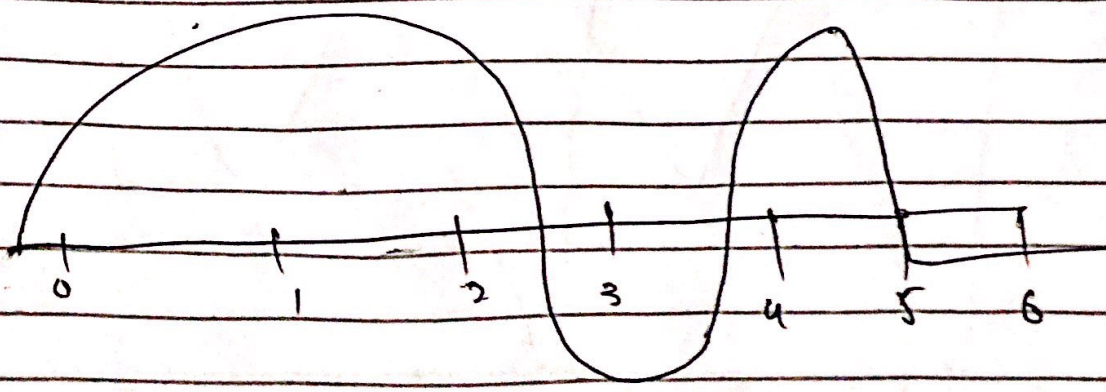
```
x = 0 : Pi / 100 : 2 * Pi ;
y1 = sin (2 * x) ;
y2 = 2 * cos (2 * x) ;
Plot (x, y, l) ;
hold on
Plot (x, y2) ;
```



Q NO 1 (B)

(ii) Sol

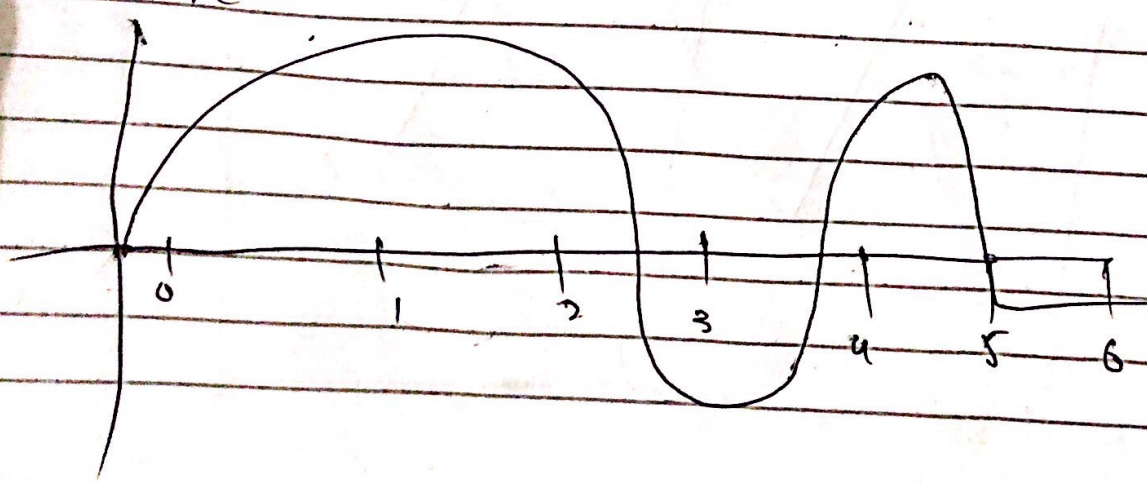
```
t = 0:0.01 =10
a = 5
f = 0.3
y = a* sin (2*Pi * f*y)
Plot (t, y)
xlabel
Y label
Close all;
Clear all
.clc.
```



Q NO 1 (B)

(i) Sol

```
t = 0:0.01 =10
a = 5
f = 0.3
y = a* sin (2*pi * f*y)
Plot (t, y)
xlabel
Y label
Close all;
Clear all
.clc.
```



Q no 1 b)

(iii)

$$y = 2\sin x e^{-x}$$

$$= \frac{2\sin x}{e^{0}2x} \Rightarrow \frac{2\sin(1)}{x=2} = \frac{0.84}{1.22} = 0.688$$

$$\frac{1.81}{1.41} = 1.21$$

$y = 0$

$x = 3$

$$= \frac{0.23}{1.822} = 0.15$$

$x = 5$

$$= \frac{-1.91}{2.1822} = 0.87$$

$x = 8$

$$\frac{1.97}{1.95} = \frac{-1.02}{11.02} = 0.00$$

~~1.98~~